In re Appln. of Feussner et al. Application No. Unassigned (U.S. National Phase of PCT/EP00/02545)

- 17. (New) The method according to claim 16, characterized in that the one or more amino acids are at amino acid position 531 and/or 597 of the lipoxygenase from *Cucumis sativus* or a corresponding position in a lipoxygenase from another plant.
- 18. (New) The method according to claim 17, characterized in that the amino acid at position 531 is substituted with a Phe- or His- residue and/or the amino acid at position 597 is substituted with a Val- or Phe- residue.
- 19. (New) The method according to claim 18, characterized in that the amino acid at position 531 is a Val- and is substituted with a Phe- and/or the amino acid at position 597 is a His- and is substituted with a Val-.
- 20. (New) The method according to claim 15, characterized in that the substituting is by directed mutagenesis.
 - 21. (New) A lipoxygenase obtained in accordance with the method of claim 15.
 - 22. (New) A lipoxygenase obtained in accordance with the method of claim 16.
 - 23. (New) A lipoxygenase obtained in accordance with the method of claim 17.
 - 24. (New) A lipoxygenase obtained in accordance with the method of claim 18.
 - 25. (New) A lipoxygenase obtained in accordance with the method of claim 19.
- 26. (New) An isolated nucleic acid molecule which consists essentially of a nucleotide sequence encoding the lipoxygenase of claim 21, optionally in the form of a vector.
- 27. (New) An isolated nucleic acid molecule which consists essentially of a nucleotide sequence encoding the lipoxygenase of claim 22, optionally in the form of a vector.
- 28. (New) An isolated nucleic acid molecule which consists essentially of a nucleotide sequence encoding the lipoxygenase of claim 23, optionally in the form of a vector.
- 29. (New) An isolated nucleic acid molecule which consists essentially of a nucleotide sequence encoding the lipoxygenase of claim 24, optionally in the form of a vector.

- 30. (New) An isolated nucleic acid molecule which consists essentially of a nucleotide sequence encoding the lipoxygenase of claim 25, optionally in the form of a vector.
 - 31. (New) A cell comprising the isolated nucleic acid molecule of claim 26.
 - 32. (New) A cell comprising the isolated nucleic acid molecule of claim 27.
 - 33. (New) A cell comprising the isolated nucleic acid molecule of claim 28.
 - 34. (New) A cell comprising the isolated nucleic acid molecule of claim 29.
 - 35. (New) A cell comprising the isolated nucleic acid molecule of claim 30.
 - 36. (New) A plant or a plant part comprising the cell of claim 31.
 - 37. (New) A plant or a plant part comprising the cell of claim 32.
 - 38. (New) A plant or a plant part comprising the cell of claim 33.
 - 39. (New) A plant or a plant part comprising the cell of claim 34.
 - 40. (New) A plant or a plant part comprising the cell of claim 35.
- 41. (New) A method of making 6-, 9- and/or 6,9-hydroperoxy- γ -linolenic acid, which method comprises incubating γ -linolenic acid with the lipoxygenase of claim 21 under suitable conditions, whereupon 6-, 9- and/or 6,9-hydroperoxy- γ -linolenic acid is obtained.
- 42. (New) A method of making 6-, 9- and/or 6,9-hydroperoxy- γ -linolenic acid, which method comprises incubating γ -linolenic acid with the lipoxygenase of claim 22 under suitable conditions, whereupon 6-, 9- and/or 6,9-hydroperoxy- γ -linolenic acid is obtained.
- 43. (New) A method of making 6-, 9- and/or 6,9-hydroperoxy- γ -linolenic acid, which method comprises incubating γ -linolenic acid with the lipoxygenase of claim 23 under suitable conditions, whereupon 6-, 9- and/or 6,9-hydroperoxy- γ -linolenic acid is obtained.